

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Shoko ARAKI, et al.

SERIAL NO: New U.S. PCT Application Based on PCT/JP04/12629

GAU:

FILED: Herewith

EXAMINER:

FOR: SIGNAL SEPARATION METHOD, SIGNAL SEPARATION DEVICE, SIGNAL SEPARATION PROGRAM, AND RECORDING MEDIUM

## INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

## REFERENCES

The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.

A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

## RELATED CASES

Attached is a list of applicant's pending application(s), published application(s) or issued patent(s) which may be related to the present application. In accordance with the waiver of 37 CFR 1.98 dated September 21, 2004, copies of the cited pending applications are not provided. Cited published and/or issued patents, if any, are listed on the attached PTO form 1449.

A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

## CERTIFICATION

Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.

No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

## DEPOSIT ACCOUNT

Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 273943US90PCT	SERIAL NO. 10/7539609 New U.S. PCT Application Based on PCT/JP04/12629
LIST OF REFERENCES CITED BY APPLICANT		APPLICANT Shoko ARAKI, et al.			
		FILING DATE Herewith	GROUP		
U.S. PATENT DOCUMENTS					
FOREIGN PATENT DOCUMENTS					
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES      NO
	AA	2004-145172	05/20/04	JP(with English abstract)	
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)					
AB	Scott RICKARD et al., "On the Approximate W-Disjoint Orthogonality of Speech", Proc. ICASSP, Vol. 1, pages 529 to 532, 2002.				
AC	Hiroshi SARUWATARI, "[Invited Paper] Blind Source Separation for Speech and Acoustic Signals" The Institute of Electronics, Information and Communication Engineers, Vol. 101, No. 669, CS2001-134, pages 59 to 66, February 25, 2002.				
AD	Shoko ARAKI et al., "Jikan Shuhasu Masking to ICA no Heiyo ni you Ongensu > Microphone-su no Baai no Blind Ongen Bunn", The Acoustical Society of Japan (ASJ)2003 Nen Shuki Kenkyu Happyokai Koen Ronbunshu -I-, 1-P-5, pages 587 to 588, September 17, 2003.				
AE	Aapo HYVAERINEN, Juha KARHUNEN, Erkki OJA, "Independent Component Analysis" John Wiley & Sons, ISBN 0-471-40540, 2001.				
AF	H. SAWADA, R. MUKAI, S. ARAKI and S. MAKINO, "A Robust and Precise Method for Solving the Permutation Problem of Frequency-Domain Blind Source Separation, " Proc. the 4 <sup>th</sup> International Symposium on Independent Component Analysis and Blind Signal Separation (ICA 2003), pages 505-510, 2003.				
AG	S. RICKARD, R. BALAN, J. ROSCA, "Real-Time Time-Frequency Based Blind Source Separation" 3 <sup>rd</sup> International Conference on Independent Component Analysis and Blind Source Separation (ICA2001), San Diego, page 651-656, December 2001.				
AH	F. ABRARD, Y. DEVILLE, P. WHITE, "From Blind Source Separation To Blind Source Cancellation in the Underdetermined Case: A New Approach Based on Time-Frequency Analysis" Proceedings of the 3rd International Conference on Independent Component Analysis and Signal Separation (ICA'2001), pages 734-739, San Diego, California, December 2001.				
AI	Y. DEVILLE, "Temporal and time-frequency correlation-based blind source separation methods," in Proc., ICASSP2003, pages 1059-1064, April 2003.				
AJ	Morio ONOE (trans.): "Pattern Classification," Shingijutsu Communications, ISBN 4-915851-24-9, Chapter 10.				
AK	Shoko ARAKI: "Blind Separation of More Speech Signals than Sensors using Time-Frequency Masking and Mixing Estimation" 1-P-4, September 2003.				
AL	Audrey BLIN et al.: "Blind Source Separation when Speech Signals Outnumber Sensors using a Sparseness - Mixing Matrix Estimation (SMME), International Workshop on Acoustic Echo and Noise Control (IWAENC2003), September 2003.				
AM	Shoko ARAKI et al.: "Underdetermined Blind Separation of Convulsive Mixtures of Speech by Combining Time-frequency Masks and ICA" Mo4.D.1 pages I-321 to I-324, 2004.				
AN	Audrey BLIN et al.: "Underdetermined Blind Source Separation for Convulsive Mixtures Exploiting a Sparseness - Mixing Matrix Estimation (SMME), Th.P1.11, IV-3139-3142, 2004.				
AO	Shoko ARAKI et al.: "Underdetermined Blind Separation for Speech in Real Environments with Sparseness and ICA" 0-7803-8484-9/04/\$20.00 ©2004 IEEE, III-881-884.				
AP	Audrey BLIN et al.: "A Sparseness- Mixing Matrix Estimation (SMME) Solving the Underdetermined BSS for Convulsive Mixtures" 0-7803-8484-9/04/\$20.00 ©2004 IEEE IV-85-88.				
AQ	Shoko ARAKI et al.: "Underdetermined Blind Speech Separation with Directivity Pattern based Continuous Mask and ICA" EUSIPCO (European Signal Processing Conference), pages 1991-1994, September 6-10, 2004.				
AR	Shoko ARAKI et al.: "Underdetermined Blind Separation of Convulsive Mixtures of Speech with Directivity Pattern Based Mask and ICA" C.G. Puntonet and A. Prieto (Eds.) ICA 2004, LNCS 3195, pages 898-905, 2004.				
AS	Shoko ARAKI et al.: "Source Extraction from Speech Mixtures with Null-Directivity Pattern based Mask" HSCMA, Rutgers University, Piscataway, New Jersey, USA, pages d-1-2, March 17-18, 2005.				
AT	Stefan WINTER et al.: "Overcomplete BSS for Convulsive Mixtures Based on Hierarchical Clustering" C.G. Puntonet and A. Prieto (Eds.): ICA 2004, LNCS 3195, pages 652-660, 2004.				
Examiner				Date Considered	
*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.					

JC17 Rec'd PTO 17 JUN 2005  
SHEET 1 OF 2

Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 273943US90PCT	SERIAL NO. 10/539609 New U.S. PCT Application Based on PCT/JP04/12629
LIST OF REFERENCES CITED BY APPLICANT		APPLICANT		Shoko ARAKI, et al.	
		FILING DATE		GROUP	
Herewith					
<b>OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)</b>					
AU	Stefan WINTER et al.: "Hierarchical clustering applied to overcomplete BSS for convolutive mixtures" Workshop on Statistical and Perceptual Audio Processing SAPA-2004, October 3, 2004, Jeju, Korea.				
AV	A. OSSADTCI et al.: "Over-complete Blind source separation by applying sparse decomposition and information theoretic based probabilistic approach" ©2000 HRL LABORATORIES, LLC, all rights reserved.				
AW	J. Michael PETERSON et al.: "A Probabilistic Approach for Blind Source Separation of Underdetermined Convolutive Mixtures" 0-7803-7663-3/03/\$17.00 ©2003 IEEE, VI-581-584.				
AX	Stefan WINTER et al.: "Hierarchical clustering applied to overcomplete BSS for convolutive mixtures" NTT Communication Science Laboratories, NTT Corporation.				
AY					
AZ					
Examiner	Date Considered				
<small>*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</small>					

10/539609

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Docket No.: 273943US90PCT

STATEMENT OF RELEVANCY

- 1) References AB-AD have been cited in the International Search Report. Copies of these references are being submitted herewith only when not automatically provided by the International Searching Authority.
- 2) Reference \_\_\_\_\_ have been cited in the corresponding \_\_\_\_\_ Search Report. A copy of this reference is being submitted herewith.
- 3) Reference AA and AE-AJ is discussed in the specification. A copy of these references is being submitted here with.
- 4) References AK-AX are additional prior art known to Applicant. A copy of these references is being submitted herewith.